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**MILES** 

**Contains No CBI**

September 15, 1993

(A)  
Document Processing Center (TS-790)  
Attention: Section 8(e) Coordinator  
Office of Toxic Substances  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

Miles Inc.  
Mobay Road  
Pittsburgh, PA 15205-9741  
Phone: 412 777-2000

8EHQ-0993-1242

Dear Sir:

Miles Inc. is submitting an Acute Oral Rat Toxicity Study, Number 93-012-TI, on CAS# 55295-98-2, Chemical name (Guanidine, cyano-, polymer with ammonium chloride and formaldehyde).

In this study, Sprague-Dawley rats (five/sex/dose-level) were administered the test compound by gavage at doses ranging from 500 to 4000 mg/kg. The resultant LD50 values were estimated to be 1908 mg/kg for the males and 2198 mg/kg for the females. Clinical signs of toxicity included convulsions, locomotor incoordination, tremors and decreased activity in a few animals of both sexes. These signs lasted no longer than four days in non-moribund animals.

While these results do not raise particular concern from a biological and hazard standpoint, we are reporting it under TSCA Section 8(e) in light of the nature of the clinical signs observed and EPA's guidance on the reporting of "neurotoxic" findings in non-moribund animals in acute toxicity studies.

The information submitted in this report is not considered "Confidential Business Information".

If you have any questions, please contact me.

Sincerely,

*Donald W. Lamb*

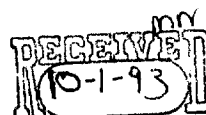
Donald W. Lamb, Ph.D.  
Vice President

Product Safety and Regulatory Affairs  
(412-777-7431)

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Enclosure

Certified Mail: P 921 654 213



8EHQ-93-12428  
INIT 09/21/93



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FILE

7069

Study Title

Acute Oral Toxicity Study  
with Levogen PM in Rats

Data Requirement

None

Authors

M. A. Zorbas and L. L. Hagen

Study Completion Date

September 8, 1993

Test Facility

Miles Inc.  
Agriculture Division  
Toxicology  
17745 South Metcalf  
Stilwell, Kansas 66085-9104

Study Number

93-012-TI

02 SEP 21 AM 8:45

**GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT**

This study was conducted in compliance with the FIFRA Good Laboratory Practice Standards of 40 CFR Part 160, TSCA Good Laboratory Practice Standards of 40 CFR Part 792 and the OECD Principles of Good Laboratory Practice, C(81)30 (Final) Annex 2 (Paris, May 1981). Except, analysis of the concentration of the test substance in the vehicle was not performed.

**SUBMITTER**

MILES INC.

J. H. Thyssen:

John H. Thyssen  
Vice President, Toxicology

Date:

9-8-93

**SPONSOR**

ORGANIC PRODUCTS DIVISION

J. H. Thyssen:

John H. Thyssen  
Vice President, Toxicology

Date:

9-8-93

**STUDY DIRECTOR**

M. A. Zorbas:

Mark A. Zorbas  
9-8-93

Date:

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## SPONSOR

MILES INC.  
Organic Products Division  
Mobay Road  
Pittsburgh, Pennsylvania 15205-9741

## TEST FACILITY

MILES INC.  
Agriculture Division  
Toxicology  
17745 South Metcalf  
Stilwell, Kansas 66085-9104

## DATES

Experimental Start Date: March 11, 1993  
Terminal Sacrifice Date: June 16, 1993

## PERSONNEL AND RESPONSIBILITIES

Toxicology and Sponsor Representative:	J. H. Thyssen
Toxicology Laboratory:	G. K. Sangha
Experimental Toxicology:	R. N. Shiotsuka
Study Direction:	M. A. Zorbas
Study Conduct:	L. L. Hagen
Pathology Services:	B. P. Stuart
Gross Necropsy:	H. E. Hoss
Animal Care:	R. E. Mueller
Quality Assurance:	C. A. Halder

*J. H. Thyssen*  
*G. K. Sangha*  
*R. N. Shiotsuka*  
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*B. P. Stuart*  
*Herbert E. Hoss*  
*R. E. Mueller*  
*C. A. Halder*

## QUALITY ASSURANCE STATEMENT

Audit reports have been submitted to the Study Director and Laboratory Management documenting the status of compliance with applicable departmental standard operating procedures, the study protocol, and Good Laboratory Practice regulations.

The quality assurance unit monitors at least one phase of each study, and at least annually, all phases of this study type including the functions of all support areas for this study type. The following are the audit dates, phases inspected, auditors, and report dates of Quality Assurance inspections of this study and, if applicable, of this study type as well as relevant support areas:

<u>AUDITS</u>			<u>REPORT TO</u>
<u>Date</u>	<u>Phases</u>	<u>Auditor</u>	<u>STUDY</u>
	<u>Phase of Study</u>		<u>DIRECTOR/</u>
			<u>MANAGEMENT</u>
03/15/93	Clinical Observations	J. Ranjbar	03/15/93
08/16, 29, 30/93	Final Report Review	C.A. Cox	08/30/93
	<u>Phase of Study Type</u>		
02/08-09/93	Tail Marking, Fasting, Test Animal Inventory, Body Weights, Dose Preparation and Test Substance Inventory, Dosing	J. Ranjbar	02/11/93
02/23/93	Euthanasia and Gross Necropsy	J. Ranjbar	02/23/93
	<u>Animal Care Support Area Functions</u>		
01/11/93	Cleaning of Racks, Cages, Trays, and Feeders	C. A. Cox	01/12/93
01/20/93	Rack Change	C. A. Cox	01/20/93
01/20/93	Bedding Change and Room Maintenance	C. A. Cox	01/20/93
01/20/93	Room Disinfection, Light Timer Check	C. A. Cox	01/20/93
01/21/93	Filter Inspection/Change	C. A. Cox	01/21/93

**QUALITY ASSURANCE STATEMENT (Continued)**

			REPORT TO
			STUDY
			DIRECTOR/
			<u>MANAGEMENT</u>
AUDITS			
<u>Date</u>	<u>Phases</u>	<u>Auditor</u>	
<u>Animal Care Support Area Functions (Continued)</u>			
01/26/93	Animal Receiving, Shipment Examination, Randomization, Animal Identification (Cage Cards), Animal Inventory	C. A. Cox	01/26/93
01/27/93	AM/PM Observations, Feeding, Quarantine	C. A. Cox	01/28/93
02/01/93	Shipment Release	C. A. Cox	02/01/93
03/16/93	Rack/Cage Preparation	C. A. Cox	03/16/93

In compliance with the Good Laboratory Practice regulations, this final report for study number 93-012-TI has been reviewed by the Quality Assurance Unit. The results presented in this report accurately describe the methods and standard operating procedures and reflect the raw data collected during the conduct of the study.

  
\_\_\_\_\_  
C. A. Halder, Quality Assurance

September 1, 1993  
\_\_\_\_\_  
Date

## **ABSTRACT**

Young adult male and female Sprague-Dawley rats (5/sex/dose) were used to determine the acute oral toxicity of Levogen PM. The test substance was administered by gavage in deionized water (10 mL/kg) at nominal doses of 0, 500, 2000, 3000 and 4000 mg/kg for males and 0, 2000, 3000 and 4000 mg/kg for females. Animals were observed for 14 days after dosing for mortality and clinical signs. Body weights were recorded just prior to treatment (day 0), when found dead and on days 7 and 14. At the end of the study the surviving animals were sacrificed and gross necropsies were performed.

The incidence of mortality increased with dose for both males and females, with all deaths occurring on days 0-2. Treatment-related signs of toxicity (convulsions, locomotor incoordination, tremors, decreased activity, spontaneous vocalization and various stains about the head and ventrum) were usually apparent on days 0-1 and most had resolved in surviving animals by day 5.

Body weight gain decreased between days 0-7 in a dose-related manner in surviving males. There was a subsequent recovery in body weight gain for surviving males between days 7-14. Body weight gain was not affected in surviving females.

Evidence of salivation and lacrimation were considered treatment-related gross lesions in animals found dead. There were no gross lesions found in animals that survived to day 14.

The acute oral LD50 (with 95% confidence limits) for males was 1908 mg/kg (300-3106 mg/kg), with a slope of 3.56 in the dose-mortality curve. For females, the acute oral LD50 (with 95% confidence intervals) was 2198 mg/kg (43-2921 mg/kg), with a slope of 7.71. The no-observed-effect level for Levogen PM was <500 mg/kg for males and <2000 mg/kg for females.

## MATERIALS

- I. The test substance was supplied by the sponsor with the following information:

### Test Substance:

Identification:	Levogen PM
Physical Appearance:	Yellow Liquid
Batch Number:	BP-19846
Composition:	Polyhydroxyamide 55.0 Water <u>45.0</u> 100.0
Stability At Storage Conditions:	One year at room temperature
Common Name:	Levogen PM
Chemical Name:	Guanidine, cyano-, polymer with ammonium chloride and formaldehyde ,
CAS Registry Number:	55295-98-2

- II. The test substance was stored at room conditions. Doses were prepared on day of administration.

## **PURPOSE**

The purpose of this study was to provide information on the health hazards likely to arise from short-term exposure by the oral route.

## **TEST GUIDELINES**

This study was conducted in accordance with:

- 1) US-EPA-FIFRA, Pesticide Assessment Guidelines, Subdivision F, Hazard Evaluation: Human and Domestic Animals, Guideline 81-1, November 1984.
- 2) US-EPA-TSCA, Health Effects Testing Guidelines, 40 CFR Section 798.1175, July 1988.
- 3) OECD Guidelines for Testing of Chemicals, Section 4, Guideline 401, February 1987.
- 4) Japan, Ministry of Agriculture, Forestry and Fisheries, Guidance on Toxicology Study Data for Application of Agricultural Chemical Registration, 59 NohSan No. 4200, January 1985.

## METHODS

### Animal Information

#### Source, Number and Age

Young adult male and female Sprague-Dawley rats (Sas:CD(SD)BR), (Sasco, Inc., St. Louis, Missouri) were used in this study. All 40 rats (25 males and 15 females) were approximately 8-11 weeks of age at the initiation of treatment. Females were nulliparous and nonpregnant.

#### Examination and Acclimation

Animals were held for at least six days and then examined and released for use by a veterinarian prior to assignment to the study. During this period each animal was examined daily for changes in general appearance, behavior and gross external abnormalities. Animals with abnormalities were not used.

#### Care and Housing

Animals were housed individually in stainless steel cages suspended over Deotized Animal Cage Board bedding material. Bedding was changed at least three times weekly and animals were transferred to clean cages every three weeks. The room was disinfected with a quaternary ammonium compound at least once every three weeks. The environmental conditions were set for a room temperature of 18 to 26°C, a relative humidity of 40 to 70% and a 12-hour photoperiod. Environmental conditions were monitored continuously. Unlimited municipal water and food (Purina Rodent Lab Chow 5001-4) were available for consumption.

#### Identification

Each animal was identified by cage card and tail marking.

#### Randomization

Animals were randomly assigned to cages using a software program [1]. Animals, which satisfied study requirements, were assigned to dose groups from consecutively-numbered cages.

### Experimental Design

#### Route, Dose and Number of Animals

All animals were fasted overnight prior to dosing. Doses were prepared as solutions (verified visually) in deionized water and were administered by gavage at a volume of 10 mL/kg. Groups of five males and five females each received a single dose of 2000, 3000 or 4000 mg/kg. The control group for these doses consisted of rats from the same shipment and tested one week earlier [2]. They were administered deionized water at a volume of 10 ml/kg. These data are included in Tables 1, 2, 3 and Appendix I. Additional groups of five males each received a single dose of 0 or 500 mg/kg.

#### Clinical Signs and Body Weight Measurements

Animals were observed for mortality and signs of toxicity twice daily on weekdays and once daily on weekends for 14 days following treatment. Animals were weighed just prior to treatment and on days 7 and 14 after treatment. Terminal body weights were obtained on all animals that died prior to scheduled terminal sacrifice.

#### Gross Pathology

All animals were subjected to gross pathologic examinations as soon as possible after death. Animals that survived to term were sacrificed by CO<sub>2</sub> asphyxiation on day 14 after treatment and then subjected to gross pathologic examinations.

#### Statistical Methods

LD50 values, 95% confidence intervals and the slope of the dose-mortality curves were calculated using a modified probit analysis computer program from Stephen [3].

#### Archival Procedures

The protocol, raw data, a sample of the test substance, and the final report are archived at locations specified by Miles Inc., Agriculture Division, Toxicology, 17745 South Metcalf, Stilwell, Kansas 66085-9104.

## **RESULTS AND DISCUSSION**

The results for males and females are summarized in Table 1. The incidence of mortality generally increased with dose for males and females, with all deaths occurring on days 0-2. Treatment-related signs of toxicity for both males and females were convulsions, locomotor incoordination, tremors, decreased activity, spontaneous vocalization, red nasal and lacrimal stains, oral stain and urine stains (Table 2). Most of these signs were apparent on days 0-1 and all had resolved in surviving animals by day 5. One 500 mg/kg male had a red lacrimal stain which appeared on day 8 and resolved on day 13, but this clinical sign was not considered treatment-related because of its late onset compared to other treatment groups and control groups.

Body weight information is summarized in Table 1, with individual weights shown in Appendix I. The body weight ranges on the day animals were treated were 182 to 283 g for males and 158 to 204 g for females. At the initiation of treatment, the weight range for all animals was within 20% of the mean body weights for each sex except for control males (only) from the same shipment that were slightly lower in body weight than treated animals because they were weighed and dosed for a study initiated one week earlier [2]. For surviving males, there was a dose-dependent decrease in body weight gain between days 0-7 followed by a dose-dependent increase in body weight gain between days 7-14. However, this increase in body weight gain is a reflection of the prior decrease in body weight gain between days 0-7. Regardless of the varied body weight changes between days 0-14, the mean body weight for each male treatment group was comparable to the mean body weight of its respective control group at day 14. Body weight gain was not affected in surviving females.

Evidence of salivation and lacrimation were considered treatment-related gross lesions in animals found dead (Table 3). The only gross lesion observed in an animal found dead that was not considered to be treatment related was reddened lungs. No gross lesions were observed in animals that survived to day 14.

For males, the acute oral LD50 (with 95% confidence limits) was 1908 mg/kg (300-3106 mg/kg), with a slope of 3.56 in the dose-mortality curve. For females, the acute oral LD50 (with 95% confidence limits) was 2198 mg/kg (43-2921 mg/kg) with a slope of 7.71 for the dose-mortality curve. The no-observed-effect level was <500 mg/kg for males and <2000 mg/kg for females.

## SUMMARY AND CONCLUSIONS

Young adult Sprague-Dawley rats were used to determine the acute oral toxicity of Levogen PM using nominal doses of 0, 500, 2000, 3000 and 4000 mg/kg for males and 0, 2000, 3000 and 4000 mg/kg for females (5/sex/dose). The incidence of mortality increased with dose for both sexes, with all deaths occurring on days 0-2. Treatment-related signs of toxicity (convulsions, locomotor incoordination, tremors, decreased activity, spontaneous vocalization and various stains about the head and ventrum) were apparent on days 0-1 and resolved by day 5. No treatment-related differences in body weight were noted for males and females. Evidence of salivation and lacrimation were considered treatment-related gross lesions in animals found dead. No gross lesions were observed in animals that survived to day 14.

For males, the acute oral LD50 (with 95% confidence limits) was 1908 mg/kg (300-3106 mg/kg), with a slope of 3.56 in the dose-mortality curve. For females, the acute oral LD50 (with 95% confidence limits) was 2198 mg/kg (43-2921 mg/kg), with a slope of 7.71 the dose mortality curve. The no-observed-effect level was <500 mg/kg for males and <2000 mg/kg for females.

## **REFERENCES**

1. SAS Institute Inc., Cary, North Carolina.
2. Zorbas, M.A., and T.L. Fitzpatrick, 1993, Acute Oral Toxicity Study with Pontamine Blue SP Liquid in Rats, [Study Number 93-012-TE, Tox. Number 6971].
3. Stephen, C.E., 1982, U.S. EPA, Environmental Research Laboratory, Duluth, MN. Personal communication to Dr. Lowell Bahner, Chairman, ASTM task group on calculating LD50.

Table 1

## Acute Oral Toxicity of Levogen PM in Rats

Study Number 93-012-TI

Dose (mg/kg)	Day 0 Body Weight Range (g)	Observations		Signs		Day		Average Body Weights (g)				No-Observed- Effect Level (mg/kg)	LD50 (mg/kg)	
		No. Signs/ No. Deaths/ No. Exposed	No. Signs/ No. Deaths/ No. Exposed	Begin on	End Within	Found Dead	(Range)	(Day)						
								(Day)	(Day)	(Day)	(Day)	0 <sup>a</sup>		7
MALES														
0 <sup>d</sup>	182-219	0/0/5	-	-	-	-	-	205	279	74	317	38	<500	1908
0 <sup>e</sup>	207-235	0/0/5	-	-	-	-	-	217	281	64	303	22		
500	215-225	4/0/5	0	13	-	-	-	221	274	53	271	-3		
2000	225-278	1/3/5	0	2	0	0	0	253/260	305	45	324	19		
3000	241-280	2/4/5	0	2	0-2	0-2	0-2	259/246	285	39	309	24		
4000	228-283	2/4/5	1	5	0-1	0-1	0-1	251/260	277	17	322	45		
FEMALES														
0 <sup>d</sup>	158-168	0/0/5	-	-	-	-	-	164	197	33	206	9	<2000	2198
2000	172-193	3/2/5	1	5	0	0	0	181/179	204	25	211	7		
3000	178-204	1/4/5	1	4	0	0	0	188/194	231	37	242	11		
4000	164-187	0/5/5	-	-	-	0	0	180	-	-	-	-		

<sup>a</sup> Fasted; for all rats/for rats surviving to day 7.<sup>b</sup> Body weight change from day 0 to day 7.<sup>c</sup> Body weight change from day 7 to day 14.<sup>d</sup> Data are from a study run one week earlier [2]. These are the control animals for the 2000, 3000 and 4000 mg/kg treatment groups in both males and females.<sup>e</sup> Control animals for the 500 mg/kg treatment group in males.

Table 2

**Clinical Signs in an Acute Oral Toxicity Study  
with Levogen PM in Rats**

**Study Number 93-012-TI**

Signs	Dose (mg/kg)									
	Male						Female			
	0 <sup>a</sup>	0 <sup>d</sup>	500	2000	3000	4000	0 <sup>a</sup>	2000	3000	4000
Convulsions	- <sup>b</sup>	-	-	-	1/1-1 <sup>c</sup>	1/1-1	-	1/1-4	-	-
Locomotor incoordination	-	-	-	-	1/0-2	1/1-1	-	2/2-4	-	-
Tremors	-	-	-	-	1/0-2	2/1-3	-	1/1-4	-	-
Decreased activity	-	-	-	-	1/1-2	-	-	-	-	-
Spontaneous vocalization	-	-	-	-	-	1/1-1	-	-	-	-
Oral stain	-	-	1/0-1	-	1/1-2	-	-	-	-	-
Red nasal stain	-	-	2/0-0	1/0-2	2/0-2	2/1-5	-	3/1-5	1/1-4	-
Red lacrimal stain	-	-	1/8-13	-	1/1-2	1/1-1	-	1/1-5	-	-
Urine stain	-	-	1/0-0	-	-	-	-	1/4-5	-	-

<sup>a</sup> Data are from a study run one week earlier [2]. These are the control animals for the 2000, 3000 and 4000 mg/kg treatment groups in both males and females.

<sup>b</sup> Sign not observed.

<sup>c</sup> Incidence/time range of occurrence.

<sup>d</sup> Control animals for the 500 mg/kg treatment group in males.

Table 3

**Gross Lesions Observed in an Acute Oral Toxicity Study  
with Levogen PM in Rats**

**Study Number 93-012-TI**

**MALES**

<u>Exposure Level (mg/kg)</u>	<u>Control<sup>a</sup></u>	<u>Control<sup>b</sup></u>	<u>500</u>	<u>2000</u>	<u>3000</u>	<u>4000</u>
<u>Fate</u>	<u>5/5 SAC</u>	<u>5/5 SAC</u>	<u>5/5 SAC</u>	<u>2/5 SAC 3/5 FD</u>	<u>1/5 SAC 4/5 FD</u>	<u>1/5 SAC 4/5 FD</u>
No gross lesions	5	5	5	2	1	1
Salivation				3	1	2
Lacrimation					1	1
Lungs reddened					1	1

**FEMALES**

<u>Exposure Level (mg/kg)</u>	<u>Control<sup>a</sup></u>	<u>2000</u>	<u>3000</u>	<u>4000</u>
<u>Fate</u>	<u>5/5 SAC</u>	<u>3/5 SAC 2/5 FD</u>	<u>1/5 SAC 4/5 FD</u>	<u>5/5 FD</u>
No gross lesions	5	3	1	1
Salivation			1	4
Lacrimation			3	1

<sup>a</sup> Data are from a study run one week earlier [2]. These are the control animals for the 2000, 3000 and 4000 mg/kg treatment groups in both males and females.

<sup>b</sup> Control animals for the 500 mg/kg treatment group in males.

SAC = Sacrificed

FD = Found dead

# Appendix I

## Individual Body Weights (g) in an Acute Oral Toxicity Study with Levogen PM in Male Rats

Study Number 93-012-TI

<u>Dose</u> <u>(mg/kg)</u>	<u>Animal</u> <u>Number</u>	<u>Day 0</u>	<u>Day 7</u>	<u>Day 14</u>	<u>Found</u> <u>Dead</u>
0a	410	219	294	330	-
	411	217	287	319	-
	412	207	285	320	-
	413	182	252	285	-
	414	199	278	333	-
0b	810	214	266	284	-
	811	235	320	350	-
	812	211	276	301	-
	813	217	280	289	-
	820	207	263	289	-
500	815	221	267	285	-
	816	215	290	228	-
	817	225	244	205	-
	818	217	279	314	-
	819	225	291	324	-

<sup>a</sup> Data are from a study run one week earlier [2]. These are the control animals for the 2000, 3000 and 4000 mg/kg treatment groups in both males and females.

<sup>b</sup> Control animals for the 500 mg/kg treatment group in males.

**Appendix I (Continued)**

**Individual Body Weights (g) in an Acute Oral Toxicity Study  
with Levogen PM in Male Rats**

**Study Number 93-012-TI**

<u>Dose</u> <u>(mg/kg)</u>	<u>Animal</u> <u>Number</u>	<u>Day 0</u>	<u>Day 7</u>	<u>Day 14</u>	<u>Found</u> <u>Dead</u>
2000	470	278	318	330	-
	471	268	-	-	258
	472	225	-	-	225
	473	242	291	318	-
	474	252	-	-	250
3000	475	241	-	-	241
	476	280	-	-	261
	477	261	-	-	260
	478	246	285	309	-
	479	266	-	-	265
4000	480	283	-	-	282
	481	228	-	-	215
	482	260	277	322	-
	483	231	-	-	232
	484	254	-	-	252

**Appendix I (Continued)**

**Individual Body Weights (g) in an Acute Oral Toxicity Study  
with Levogen PM in Female Rats**

**Study Number 93-012-TI**

<u>Dose</u> <u>(mg/kg)</u>	<u>Animal</u> <u>Number</u>	<u>Day 0</u>	<u>Day 7</u>	<u>Day 14</u>	<u>Found</u> <u>Dead</u>
0 <sup>a</sup>	491	158	186	191	-
	492	163	188	197	-
	493	165	206	214	-
	494	165	203	215	-
	495	168	200	211	-
2000	550	173	-	-	171
	551	179	204	213	-
	552	172	198	201	-
	553	193	-	-	192
	565	186	210	220	-
3000	555	194	231	242	-
	556	178	-	-	170
	557	204	-	-	203
	558	178	-	-	178
	559	186	-	-	185
4000	560	187	-	-	185
	561	164	-	-	165
	562	181	-	-	180
	563	185	-	-	184
	564	183	-	-	178

<sup>a</sup> Data are from a study run one week earlier [2]. These are the control animals for the 2000, 3000 and 4000 mg/kg treatment groups in both males and females.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

Donald W. Lamb, Ph.D.  
Vice President, Product Safety & Regulatory Affairs  
Miles, Inc.  
Mobay Road  
Pittsburgh, Pennsylvania 15205-9741

OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

JAN 18 1994

This letter formally acknowledges EPA's receipt of information submitted by your organization under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA Section 8(e) Document Control Number (i.e., 8EHQ-0000-0000 Init.) assigned by EPA to your submission(s). Please refer to this cited number when submitting follow-up or supplemental information.

Please note that all submitted correspondence will be placed in the public files unless confidentiality is claimed according to the procedures outlined in Part X of EPA's TSCA Section 8(e) policy statement (43 FR 11110, March 16, 1978).

Confidential submissions submitted pursuant to the TSCA Section 8(e) Compliance Audit Program (CAP) should already contain information supporting confidentiality claims, because substantiation of CBI claims is required at the same time the 8(e) CAP is submitted to EPA. (If not done so already, please ensure that this information is provided to the Agency). When substantiating any/all claims, answer the questions detailed in the following attachment.

For NON-CAP submissions, any confidentiality claims should be supported by submission of information as described in the attachment(s).

12428 A

BEST COPY AVAILABLE

TESTS DATA:

UNCLASSIFIED & BELIO: 0993-12428

SEQ A

TYPE INT SUPP FLWP

INITIATOR NAME Miles, Inc.

INFORMATION REQUESTED: FLWP DATE

0901 NO INFO REQUESTED

0902 INFO REQUESTED (TECH)

0903 INFO REQUESTED (VOL ACTIONS)

0904 INFO REQUESTED (REPORTING RATIONALE)

POSITION

REFER TO CHEMICAL SCREENING

W/ CAP NOTICE

VOLUNTARY ACTIONS:

0901 NO ACTION REPORTED

0902 STUDIES PLANNED/UNDERWAY

0903 NOTIFICATION OF WORK/RA/TH H'S

0904 LABEL/ANALYSIS CHANGES

0905 PROCESS/HANDLING CHANGES

0906 APPROUSE DISCONTINUED

0907 PRODUCTION DISCONTINUED

0908 CONFIDENTIAL

U.S. DATE: 09/15/93

OTS DATE: 09/21/93

CRAD DATE: 09/30/93

CHEMICAL NAME

Levogen PM

CASE

55295-98-2

INFORMATION TYPE

ONCO (HUMAN)

ONCO (ANIMAL)

CELL TRANS (IN VITRO)

MUTA (IN VITRO)

MUTA (IN VIVO)

REPROTERATO (HUMAN)

REPROTERATO (ANIMAL)

NEURO (HUMAN)

NEURO (ANIMAL)

ACUTE TOX (HUMAN)

CHL TOX (HUMAN)

ACUTE TOX (ANIMAL)

SUB ACUTE TOX (ANIMAL)

SUB CHRONIC TOX (ANIMAL)

CHRONIC TOX (ANIMAL)

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INFORMATION TYPE

EPICLIN

HUMAN EXPOS (PROD CONTAM)

HUMAN EXPOS (ACCIDENTAL)

HUMAN EXPOS (MONITORING)

SOCIAL/AQUA TOX

ENV OCCUREL/FATE

EMER INCI OF ENV CONTAM

RESPONSE REQUEST DELAY

PROD/COMP/CHEN ID

REPORTING RATIONALE

CONFIDENTIAL

ALLERG (HUMAN)

ALLERG (ANIMAL)

METAB/PHARMACO (ANIMAL)

METAB/PHARMACO (HUMAN)

P.F.C.

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

01 02 04

INFORMATION TYPE

IMMUNO (ANIMAL)

IMMUNO (HUMAN)

CHEMOPHYTS PROP

CLASTO (IN VITRO)

CLASTO (ANIMAL)

CLASTO (HUMAN)

DNA DAMAGE/REPAIR

PRODUSE/PROC

MSDS

OTHER

P.F.C.

01 02 04

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TRACE DATA

NON-ON INVENTORY

ONGOING REVIEW

SPECIES

TOXICOLOGICAL CONCERN:

USE:

PRODUC MON:

YES (CONTINUES)

NO (DROPS)

YES (DROPS/REFL.)

NO (CONTINUE)

REFER:

DETERMINING

LOW

MED

HIGH

Acute oral toxicity

Non-CAP

Acute oral toxicity in the rat is low concern based on calculated acute oral LD<sub>50</sub> values of 1908 (male) and 2198 mg/kg (female). Rats were gavaged once. Doses + corresponding mortality were: 500 mg/kg (0/5 males only), 2000 mg/kg (5/10), 3000 mg/kg (5/10) + 4000 mg/kg (5/10).

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All deaths occurred within 2 hours. Neurotoxic signs at doses  $\geq 2000$  mg/kg included convulsions, tremors + increased salivation. Hypoactivity was observed at 3000 mg/kg only.

NOEL  $< 500$  mg/kg

NOAEL  $< 2000$  mg/kg